

Title (en)

Method and circuit arrangement for driving an ultrasonic vibrator

Title (de)

Vefahren und Schaltungsanordnung zum Betreiben eines Ultraschall-Schwingers

Title (fr)

Procédé et circuit de commande d'un vibreur ultrasonore

Publication

EP 1738837 A3 20090603 (DE)

Application

EP 06013099 A 20060626

Priority

DE 102005030777 A 20050701

Abstract (en)

[origin: EP1738837A2] The method involves using a resonant circuit in supplying energizing current and excitation voltage (U) to the ultrasonic oscillator (1) included in an existing ultrasonic oscillation system. The frequency of the resonant circuit is set outside of the resonant frequency of the ultrasonic oscillation system, and can be set and adjusted by changing size of the energizing current and changing the frequency of the excitation voltage to predetermined value. The size of the energizing current depends on the size of the excitation voltage. An independent claim is included for the switching configuration used in operating an ultrasonic oscillator.

IPC 8 full level

B06B 1/02 (2006.01)

CPC (source: EP US)

B06B 1/0253 (2013.01 - EP US)

Citation (search report)

- [A] JP 2005166933 A 20050623 - KAIJO KK
- [A] US 5180363 A 19930119 - IDEMOTO MORITO [JP], et al
- [A] EP 1495727 A2 20050112 - OLYMPUS CORP [JP]
- [A] US 3445750 A 19690520 - UTHE PAUL M JR, et al

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WO2013017452A3; US9423291B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1738837 A2 20070103; EP 1738837 A3 20090603; DE 102005030777 A1 20070104; DE 102005030777 B4 20161020; JP 2007007649 A 20070118; US 2007001548 A1 20070104; US 7345401 B2 20080318

DOCDB simple family (application)

EP 06013099 A 20060626; DE 102005030777 A 20050701; JP 2006181994 A 20060630; US 47845406 A 20060629